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NOTES ON BIRDS OF SOUTHEASTERN PAPUA

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This report is based on a collection obtained by the author in southern Papua in 1948 while making field studies for a Rouna Falls habitat group for Whitney Memorial Hall in the American Museum. Of 144 species observed, 134 were collected, comprising some 450 scientific study skins. A majority of the specimens came from the vicinity of the falls; the remainder were collected in the Owen Stanley Mountains, in lowland swamps and savannas behind Port Moresby, and on either side of this area in the vicinity of the native villages of Motumotu on the lower Brown River and Tupusiele on the coast near Bootless Bay.

I am very much indebted to Dr. John T. Zimmer and Dr. Ernst Mayr for assistance and advice during the preparation of these notes.

Full synonymies are easily obtainable from Mayr's "List of New Guinea birds" (1941, published by the American Museum of Natural History). The sequence of species given by Mayr is followed herein.

Species that I observed but failed to collect are indicated by asterisks.

Names of colors are capitalized when direct comparison has been made with Ridgway's "Color standards and color nomenclature."

ITINERARY

Following a flight from Manila via the Moluccas and Australia, I arrived at Jackson Airfield, 7 miles north of Port Moresby,

the morning of February 7, 1948. On the eighth my friend Owen MacNeill introduced me to Mr. T. L. Sefton of Koitaki plantation who most generously assigned to me five of his most trusted natives.

During a 50-mile drive to and from Koitaki we followed the Rouna road which, after crossing some low coastal hills, leads northeast for 10 miles through a flood plain choked with kunai grass and decorated with spaced-out eucalyptus trees. The road, which is subjected to intense water erosion on its upper reaches, climbs along the eastern flank of the Laloki River Valley between two massive, finger-like escarpments marking the western extremities of the Astrolabe Mountains. At an altitude of about 500 feet the valley becomes steep, and thereafter, until the Koitaki plateau is reached, it follows a tortuous, zigzag route across boulder-strewn talus slopes until it gains the summit of Warirata escarpment by way of a ledge above the cataract of Rouna Falls.

The brief reconnaissance that I was able to make during the course of this trip confirmed the earlier advice of Dr. John T. Zimmer and Dr. George H. H. Tate to the effect that I would find one of the most spectacular of Papuan terrain features in the upper Laloki canyon. The falls were selected forthwith as the locale for the habitat group, the immediate setting for which turned out to be an oft-frequented ledge known to countless soldiers, sailors, and airmen who were based in the Port Moresby region during the late war.

With great thoughtfulness, His Honor Colonel J. K. Murray, Administrator of British New Guinea, called me to his office on Monday, February 9, and immediately laid out a schedule which resulted in my obtaining all necessary credentials and instructions in a remarkably short time.

Preparations having been completed by the evening of the tenth, Mr. Owen MacNeill, to whom I am deeply indebted for many kindnesses, loaded his "jeep" with some of my expedition equipment, and the following morning we drove the 22 miles to Rouna Pass. There MacNeill placed an excellent little house at my disposal, one of three constructed at that place for the Red Cross during the war, which became my permanent base of operations. During my several absences Mr. J. B. Howard, a road engineer who lived near-by, performed the valuable service of watching over my men, materials, and specimens.

From February 12 to 26 I collected steadily in this region, devoting my efforts largely to the habitat group studies, but also to the training of my men, Mari-Uri, Arua-Maia, Asi-Manuo, Yai-Kakia, and Someri-Obui, all of whom had arrived from Koitaki on schedule the evening of the twelfth. Birds were scarce and difficult to collect on the broken slopes. Our camp was located about halfway down the east wall of the Laloki River chasm in a notch in the side of Warirata escarpment, the plateau of which terminated in high cliffs directly overhead to the east. To the west, on the far side of the imposing Laloki River gorge, rose the dense talus slopes of Hombron escarpment. These were crowned with 200-foot cliffs resembling the palisades of the lower Hudson River.

Rouna Falls is some 70 feet wide at its brink. The waters of the Laloki plunge about 250 to 300 feet in a nearly vertical drop to a great pool lined with a rich verdure of trees, moss, lichens, and orchids. Plans were afoot to harness the falls, but at the time of my visit no actual work had been begun.

On the afternoon of February 26 I began a trek into the Owen Stanley Mountains, guided by Mr. J. W. Derbyshire, Squire of Illolo, the innermost plantation behind Port Moresby. Derbyshire, who is one of the leading authorities on the Owen Stanleys, made this trip possible by contributing native carriers and his own valuable time.

The road to Illolo from Rouna Pass is treacherous and often impassable except to four-wheel-drive vehicles. Initially it climbs upward to the top of a broad rolling plateau through which the upper Laloki winds placidly. At an altitude of some 2000 feet it follows little ridges to the Laloki Bridge, a narrow concrete structure built during the war. Near-by stands a simple stone monument marking the terminus of the infamous Kokoda "Track." (All trails and poor "jeep" roads are known as tracks in New Guinea.) This track, which leads over the formidable Owen Stanley Range to Buna on the northern coast of eastern New Guinea, consists of a narrow footpath which in places is so steep as to be virtually unclimbable except on all fours or with the aid of a rope. It crosses innumerable streams, a number of rivers, and literally hundreds of ridges which quite frequently lie athwart the trail. During the war a "jeep" track was pushed through to a spot called Ower's Camp on the south side of the Goldie River, some 20 miles by trail beyond the

present location of the Kokoda monument. Beyond that point and onward to the far side of the Owen Stanleys travel is and has always been by foot. I emphasize this because of a recent error appearing several times in an otherwise excellent report by Robert G. Bowman, entitled "Prospects for settlement in northeastern New Guinea,"¹ in which the author states that during the recent war an all-weather highway was constructed across the Owen Stanley Range from Port Moresby to Buna on the northern coast.

Today the road terminates at Illolo some 6 miles north of the monument after passing through patches of high, open casuarina and mixed broad-leaf forest. In the main, however, it is bordered by large fields of kunai grass interspersed with thickets and second-growth forest. Several human habitations lie within sight of the road. One of these is the McDonald rubber plantation and another is an extensive tract farmed by members of a prospering Seventh Day Adventist Mission. A cluster of native houses is situated near the Laloki Bridge and, half a mile west of them, a rough track leads southeast to the southernmost bluffs of the Hombron escarpment at Yamagi lookout. There one comes upon a remarkable panorama extending from the high peaks of the Astrolabes to the east, across the south coast of Papua from Tupusiele village, Bootless Bay, Port Moresby Harbor, to Kairuka Bay far to the west. Visible from here are Waigani Swamp, both Big and Little Mt. Lawes, the immense forests of lower Brown River, and the entire course of the lower Laloki River. And, on clear days, the peaks of Mt. Victoria can be seen through the spaced-out trees of the grassy escarpment to the northeast (azimuth: 25 degrees).

Our party of 17 men moved inland to Ower's Camp high on the south flank of the Goldie River on February 28 and thence to Uberi village on the north bank of that river on March 1. With sufficient manpower to carry the "jeep" out of difficulties on occasion, we chose to drive over the abandoned road to its former terminus at Ower's Camp, crossing three rotting bridges en route. This camp, which is some 8 miles north of Illolo, consisted of several dilapidated houses situated in a large clearing in luxuriant rain forest containing a thick understory of tree ferns and much wild life. It is 1890 feet above the sea and about 40 miles by road from the coast and, with some improvements to the bridges, could be made to serve as an excellent zoological

¹ 1948, State Univ. Iowa Studies in Nat. Hist., vol. 19, no. 1.

collecting station for some future expedition. Uberi village (1205 feet) lies north of the Goldie, perhaps 4 miles distant from Ower's Camp and 225 feet above the river. It consisted of six native houses, a few gardens, and an orchard, all situated in a small clearing in high valley forest. Just to the north of the village there stood a tall buttress of black cliffs which comprised a portion of Imiti Ridge. At this station we were provided with a simply constructed but very satisfactory rest house by the village councillor, Mr. Iobu. Each village along the track is equipped with a similar house for transients and, whenever we stopped in one of them, both the village police boy and the village councillor treated us with courtesy.

Birds were collected en route, and specimens were prepared each evening. Sometimes the finished specimens were left behind in the rest houses to dry. All were safely retrieved on our trip out.

We left Uberi at 8:45 A.M. March 2 for Ioribaiwa village 55 miles inland, reaching our destination at 5 P.M. The trail led steeply upward through high forest to the grass-covered, knife-like crest of Imiti Ridge at 2400 feet and from there descended very abruptly into the matted Faure River basin where we had to cross the Faure no fewer than eight times. The fords, averaging 15 to 30 feet in width, are impassable at flood stage. Ioribaiwa (2240 feet) consisted of five crude houses, a number of native gardens, and, again, we found a series of black signal cliffs rising near-by. Our objective, Mt. Maguli, was visible to the east across intervening ridges. Many fox holes, scarred trees, and blasted caves in the cliffs overhead attested to severe jungle warfare in the vicinity of this village.

At 9:40 A.M. March 3 we left Ioribaiwa, bound for the highest point on the Kokoda Track between the south coast and the trail immediately below the gap in the Central Range. This destination, which we reached at 5 P.M., was in a low pass at 4200 feet on the northwestern portion of a long, whale-backed ridge leading to the summit of Mt. Maguli. To the north the trail descended to the broad valley of the upper Brown River, and forded it at an altitude of about 1000 feet in the vicinity of the village of Narao, a point some two hours distant from the pass in which we established our subtropical camp.

Immediately upon our departure from Ioribaiwa, we moved to the top of a ridge (2520 feet) which formed the southern perim-

eter of the Ofi River Valley, then dropped into the lowlands and proceeded to cross the Ofi and Emeuri rivers several times at altitudes ranging around 1675 feet. On the north flank of this valley the Kokoda Track rises steadily on the tops of a series of rounded ridges, ascending past the village of Bisitano (2465 feet) and "Jap Ladder" (3890 feet), to the aforementioned pass on Maguli Ridge. As might be surmised, "Jap Ladder" was a Japanese observation post built in a tree from which the southern coast of Papua, including Port Moresby Harbor, could be surveyed. The tree had been felled at the time of our visit.

The native name for Mt. Maguli is Mokoro-Onu and, curiously, after close study of early maps, I am convinced that this is the highland upon which Hunstein collected types and which he called "Horseshoe Mountain."

Our subtropical camp was occupied from March 2 to 7. A meager supply of water was obtained from bamboo shoots scattered through the woodlands below the summit. Surrounding us was a high, cathedral-like forest crowned with a continuous thick canopy.

The ridge of Mt. Maguli is about 6 miles long. It ascends gradually over a series of small saddles to a height of some 6000 feet. A narrow, little-used trail leads along its crest at least to a point 5000 feet high (the maximum elevation reached by us), crossing two sharp ridges which taper to a width of several feet. These are precipitously walled on the north side. The trees of the ridge are moderately cloaked with moss and decorated with bird's nest and stag-horn ferns, arboreal gardens, and some hanging vines. Below, the forest is rather open and easily penetrable to man. Although birds were relatively scarce, virtually every one taken was a subtropical species new to my collection.

Two miles southeast of our subtropical camp we found a promontory which commanded a magnificent panorama of the Central Range to the north with Mt. Victoria (13,363 feet) just left of center and the Kokoda Track gap above Myola to the right of center. Southward, at a distance of some 70 miles by trail and road and perhaps 25 as the crow flies, vast sections of the Papuan coast and the Coral Sea were visible through binoculars. Pigmy-like natives who visited us from the upper Brown River Valley identified this spot as "Orogirio." From it a view comprising 66 degrees of the Central Range was visible. It was by good fortune that I managed to secure photographs of the

highest mountain in Papua, Mt. Victoria, which is usually hidden in mist. Azimuths were immediately shot with a hand-held lensatic compass, and photographs were made from this, the focal point of our highland collecting ground. The former were as follows: Kokoda Track Gap near Myola, 19 degrees; high west peak of Mt. Victoria (Orira-ageva in Koiari), 245 degrees; high east peak of Mt. Victoria (Yic in Koiari), 250 degrees; Mt. Maguli peak through trees, 144 degrees.

On what appeared to be the lower south face of Mt. Victoria two waterfalls were observed. I estimated them to be located between the altitudes of 5500 and 6000 feet. One at an azimuth of 247 degrees was a wide short falls perhaps 200 feet high; the other was a spectacular ribbon falls with a drop of between 400 and 600 feet.

Birds of Paradise were common in the forests of Mt. Maguli but, with the exception of the Blue Bird (*Paradisaea r. rudolphi*), were difficult to obtain.

Quite unexpectedly Derbyshire, who made a two-day trek into the Brown River Valley (March 3 and 4), decided to take us out to Ioribaiwa on the seventh. On the eighth the trails were dry and by dint of a 15-hour march we retraced our path to Illolo plantation. Our visit to the Owen Stanleys had been made at the height of the wet season during an abnormally dry period. Each of the more than a dozen river crossings was a threat to our operation.

I worked in the vicinity of Rouna Falls with occasional collecting trips to the savannas behind Port Moresby and around Koitaki plantation between March 10 and 19. On the twentieth I moved my party to the village of Tupusiele on the east coast of Bootless Bay. We managed to drive our "jeep" the 30 miles from Rouna by way of the Rouna Road and a spur track which extends to Bootless Bay in the vicinity of the Whitbourne and Chapman plantations; beyond that point we drove through savannas, swamps, over salt pans, through rivers, and along the beach, finally reaching the village at dusk. This picturesque spot was inhabited by about 80 Motoan families who had erected some 60 houses on stilts over the waters of a large lagoon. Many tropical species were added to our collection at this station, particularly birds of the mangroves and beach. On March 25 and 26 we drove about 35 miles northwest, much of the distance over a long-unused Bren-gun track leading to Motumotu, a tiny

village of some five huts located on the lower Brown River. Unlike the hot dry terrain in the Tupusiele region, we found here a broad belt of tall virgin tropical forest which bordered the river in a band not less than 15 miles wide. Before reaching this forest we passed through a large unpopulated section of low, open savanna containing an assortment of spaced-out trees, clusters of bushes, and immense areas of swamp. Tracks of an introduced species of deer were observed here, and wallabies of two species were abundant. One of the latter was found in the river forests which contained a wealth of bird and mammal life. At Motumotu we collected our only examples of many tropical species, including the Twelve-wired Bird of Paradise (*Seleucidus ignotus ignotus*), Red-bellied Pitta (*Pitta sordida novaeguianae*), the Two-wattled Cassowary (*Casuarus c. sclaterii*), and the Crowned Pigeon (*Goura s. scheepmakeri*). We also obtained a wild pig and a species of large cuscus. This mosquito-plagued region abounded with fruit bats and reptiles and contained large populations of both the Two-wattled Cassowary and the Crowned Pigeon. The latter was missing from all other areas visited, and the former had been largely extirpated in all other lowland areas examined.

The 10 or so residents of little Motumotu were a sickly lot. Virtually everyone seemed to have malaria, the village councillor had a crippled hand, another man complained of excruciating pain in his kidneys, and, curiously, one of the few children we saw had a large scar with a bulging, pear-like appendage across his abdomen. We were informed that a pet cassowary, raised from a chick in the village, had done this damage with a single kick more than a year previously.

On March 31 I moved over the rough wet track to the "Nine Mile Quarry" behind Port Moresby, recrossing three large streams in the Brown River forest en route. The initial 15 miles of this trail cannot be followed except on foot or in a "jeep" equipped with four chains and with five men to push the vehicle out of deep draws and along sandy river bottoms when necessary, which is often.

Thereafter, until my departure for Australia on April 11, I worked in the Port Moresby lowlands and in the Rouna region, with one exception. On the fourth and fifth of April, in company with three Australians who had frequently assisted me in collecting birds around my lowland camps, William Lamont,

William Berlin, and John Hesschen, we tried to return to Motumotu to obtain a skin of the King Bird of Paradise. Flash floods trapped us, however, and after a wet night in the swamps we made our exit.

WEATHER NOTES

The Rouna Falls area, although only 22 miles from Port Moresby and 1000 feet above the sea, is situated in a different meteorological zone. It lies perhaps a mile north of the hot, dry coastal band which envelops northern Australia, the Torres Strait, and Papua in the Port Moresby region, and consequently is subject to the seasonal rains of the interior. During the latter half of February these appear three to four afternoons per week, and often at night, in the form of short, violent rain squalls preceded by low mist.

During this period early morning temperatures ranged between 68° and 71° F., early afternoon temperatures between 76° and 80°, and late evening temperatures between 71° and 75°. In mid-March, during a period of 10 days, considerably less rain was experienced at Rouna Falls, although temperatures remained similar. Readings made at that time between 11 P.M. and midnight ranged between 67° and 72°.

At the Mt. Maguli camp (4200 feet), in an abnormally dry period in the first week of March, early morning temperatures ranged between 63° and 65°, late evening temperatures between 62° and 64°, and the highest reading obtained was 67° recorded both at 5 P.M. and 7 P.M. the evenings of March 5 and 6.

During March 21 to 25 at Tupusiele on the coast near Bootless Bay no rain fell, and a water shortage was sorely trying the ingenuity of the village fathers. Early morning temperatures ranged between 77° and 79°, shooting upward to 80° to 85° in the early afternoon and dropping to the low eighties in the evening.

Our Brown River camp near Motumotu village, perhaps 100 feet above sea level, was situated in a luxuriant high forest. We found this spot comparatively cool but oppressively damp in late March. Almost invariably heavy rains fell in the afternoon, often inundating the forest floor to a depth of from 2 to 6 inches. The 5 A.M. to 7 A.M. temperatures ranged between 71° and 75°, and the late evening temperatures ranged between 74° and 77°.

ANNOTATED LIST

Casuarius casuarius sclaterii Salvadori

Motumotu: One female.

Apparently common throughout the original tropical forests of the lower Brown River Valley in the vicinity of the village of Motumotu. In this area I flushed an adult at mid-day in deep forest and observed many tracks in silt fans of the recently flooded jungle and along the banks of small streams.

Very uncommon or extirpated elsewhere in the lowlands of the Port Moresby region. Between Uberi on the upper Goldie River and Narao on the upper Brown natives called my attention to a deep resonant honking which they attributed to this species. In each instance the sound came from the depths of original forest far below us. The frequency of these calls indicated that the Cassowary is common in the southern foothills of the Owen Stanley Mountains.

***Podiceps novaehollandiae** Stephens

Common on open fresh-water ponds near the coast, particularly in the Waigani Swamp area where I observed several small flocks, one of which was in company with five examples of *Anas superciliosa rogersi*.

Phalacrocorax melanoleucos melanoleucos (Vieillot)

Laloki River near Rouna: Two males; streams behind Tupusiele: one male, one female.

Fairly common although thinly distributed along the margins of streams and small rivers between the coast and 2200 feet. Near the Kokoda Track monument a single bird was frequently observed perching on the tip of a high dead tree about 50 feet from the Laloki River. Its perch and large portions of the tree were heavily whitewashed with guano, indicating frequent and continuous usage.

PERISHABLE COLORS: Bill and gape Wax Yellow, the latter with a broad black culmen. Legs, toes, and webs black. Iris grayish.

Anhinga rufa papua Rand

Laloki River near Rouna: One female, 1200 feet.

Common in the Waigani Swamp region. Rather uncommon along inland streams and rivers up to an altitude of about 2000 feet.

PERISHABLE COLORS: Maxilla Olive Yellow, with a broad Light Yellowish Olive culmen; mandible and gape a little paler than Lemon Chrome. Throat somewhat more vinaceous than Pinard Yellow. Lores like culmen. Legs pale bluish gray, becoming dusky gray on joints; nails gray with dusky tops and black tips; pads buffy gray. Iris Orange Chrome.

****Fregata ariel ariel* (Gray)**

Uncommon. I observed three birds on March 22 at Tupusiele flying north along the coast at a height of about 200 feet.

***Butorides striatus littleri* Mathews**

Tupusiele: One male.

****Cosmerodius albus modestus* (Gray)**

Observed in the Waigani Swamp region.

****Xenorhynchus asiaticus australis* (Shaw)**

Large storks were observed on several occasions flying southwest high over the Rouna region.

***Dendrocygna guttata* Schlegel**

Lower Brown River forests in the vicinity of Motumotu: One male, three females, four female juveniles.

Common. We came on an adult with eight or more young in the deep wet forest of the lower Brown Valley. The flock was feeding on the forest floor in heavy rain at least a quarter of a mile from the nearest stream. Four of the downy young were collected.

***Anas superciliosa rogersi* Mathews**

Vicinity of Tupusiele: One female.

Common in small flocks on the waters of Waigani Swamp and on stagnant ponds near Tupusiele. See annotations under *Podiceps novaehollandiae*.

****Milvus migrans affinis* Gould**

Not uncommon in the open lowlands. Usually found soaring

low over grasslands in the vicinity of Jackson Airfield 7 miles north of Port Moresby. Not observed elsewhere.

****Haliastur indus girrenera* (Vieillot)**

A pair of Red-backed Sea Eagles inhabited Rouna gorge just below the falls. They were to be seen at all hours of the day soaring over the deep forests of the talus slopes or over the swiftly flowing waters of the Laloki River. On four occasions in February I found this eagle perching on a high limb immediately below the crest of the Rouna road pass. A second pair apparently inhabited the forested region near the confluence of Sapphire Creek and the Laloki River at an altitude of about 500 feet.

This species exhibits a marked preference for inland forests in the vicinity of fresh water, at least during the months of February and March.

***Accipiter novaehollandiae leucosomus* (Sharpe)**

Koitaki: One male.

Infrequently observed perched on high dead trees overlooking the rolling grasslands along the Rouna-Koitaki road.

***Accipiter fasciatus polycryptus* Rothschild and Hartert**

Below Rouna, 500 feet: One female; Rouna, one female; Koitaki, one female. These specimens may be considered topotypical of *polycryptus* which is based on a specimen from the Sogeri district.

During February the most common hawk of rolling kunai grasslands with spaced-out eucalyptus trees. Frequently observed perching solitarily on low living trees along the road extending between the "Nine Mile Quarry" and Koitaki plantation.

****Pandion haliaetus melvillensis* Mathews**

Observed once in flight over the Tupusiele lagoon, March 23, 1948.

***Falco peregrinus ernesti* Sharpe**

Hombron bluff: One female.

Uncommon. The only example observed was collected from the top of a dead tree on the summit of the Rouna palisades.

***Falco severus papuanus* Meyer and Wigglesworth**

South bank of the Goldie River at Ower's Camp: One male, 2100 feet.

Uncommon. One specimen was observed and collected on the edge of original high tropical forest bordering the Kokoda Track.

***Ieracidae berigora novaeguineae* Meyer**

Rouna: One male.

***Megapodius freycinet duperryi* Lesson and Garnot**

Vicinity of Tupusiele: One male, two females; lower Brown River forests: one female.

Fairly common in the lowlands. Unused nest mounds were found within 150 feet of the coast at Bootless Bay in stunted second-growth forest and in an orchard, also on level areas in open portions of original forest in the lower Brown River Valley. Birds were observed feeding in deep shade along the inner edge of high mangrove swamps east of Tupusiele village. No trace of this species was found above an altitude of 300 feet.

On March 24, Mr. Archibald Whitbourne of Bootless Bay guided me to two abandoned nests, one of which was 40 feet in diameter and about 5 feet high. He informed me that this nest was at least 40 years old and had not been used for some 30 years. His estimates were based on the fact that the nest in question is recorded in a survey made in 1908. In 1918 when Whitbourne purchased the property he found the nest to be located exactly as indicated in the original survey. It has not been used since that date and, according to Whitbourne, has decreased considerably in height and diameter, yet it remains as a prominent terrain feature in the midst of a large flat area. All sign of debris has long since rotted away, and at the time of my visit the brown earth mound was planted in yams.

***Aepyodius arfakianus* (Salvadori)**

Horseshoe Mountain (=Mt. Maguli): One male, 4000 feet; one female, 4200 feet.

Not uncommon in the subtropical rain forests of the southern flank of the Owen Stanley Mountains.

PERISHABLE COLORS: Sides of face pale bluish gray washed

with Apple Green between subloral and subauricular areas. Lores like face. Comb vinaceous. Throat whitish with a pale blue cast except on flat wattle at lower edge, which is dark gray with edges and central stripe Deep Vinaceous. Bill Tawny-Olive, more yellow below, becoming deeper brown, more Saccardo's Umber, on sides and basal half of maxilla, particularly on the culmen. Naked auricular openings pale slate with a pale grayish pink fan extending to the rear. Legs Tawny Olive, becoming darker, more Saccardo's Umber, on anterior scutes and on the dorsal scutes of the toes. Nails dull grayish brown. Iris a little browner than Honey Yellow.

****Synoicus ypsilophorus plumbeus* Salvadori**

Apparently a very uncommon inhabitant of the lowland grasslands in the vicinity of Port Moresby. My only observation is of a bird which flushed in front of a "jeep," flew about 30 feet, and then plunged into tall grass. Three men ran to the spot and the bird flushed again, this time to dive into grass 10 feet distant. Apparently this species finds refuge by running or burrowing under grass rather than by taking flight, except under very unusual conditions.

***Lobibyx miles* (Boddaert)**

Near junction of Sapphire Creek and Laloki River: One male, two females (?), February 17-18, 400 feet.

Common in cultivated and grazing areas of the lowlands, particularly in the vicinity of water holes. Two specimens were observed in shallow brackish waters bordering large salt pans near Bootless Bay on the coast, and three were observed among grazing cattle in the uplands of Koitaki plantation (1800 feet) in late February.

***Pluvialis dominica fulva* (Gmelin)**

Koitaki: Two females, February 17-18, 2100 feet; Tupusiele: one male, March 23.

Common on the upland pasture lands of Koitaki plantation throughout February and March. Not uncommon along the coast near Bootless Bay in late March. Usually in small flocks.

***Charadrius dubius papuanus* Mayr**

Lower Brown River: One male, 300 feet.

Three birds were observed feeding on small rocks bordering the lower Brown River, March 27.

***Numenius phaeopus variegatus* (Scopoli)**

Tupusiele: One male, March 22.

Brought in by a native collector.

***Limosa lapponica novaezealandiae* Gray**

Tupusiele: One male, March 23.

Brought in by a native collector.

****Actitis hypoleucos* (Linnaeus)**

Common along the coast at Port Moresby and Tupusiele during March.

***Ptilinopus coronulatus coronulatus* G. R. Gray**

Rouna: One female, one (?).

Common in the canopy of the original talus forest of Rouna canyon where it was encountered on exposed perches of the forest edge at dusk. Usually in pairs.

***Ptilinopus iozonus finschi* Mayr**

Little Mt. Lawes: Two males; vicinity of Port Moresby: two females; Rouna: one female, 2000 feet; lower Brown River forests: one female.

Common in the crowns of spaced-out trees near water but difficult to detect because of its habit of sitting quietly in dense clusters of leaves. Usually in small flocks.

***Ptilinopus rivoli bellus* Sclater**

Rouna: One female, 1000 feet.

***Megaloprepia magnifica poliura* Salvadori**

Rouna: Two males; lower Brown River forests: three males.

Fairly common on the forested slopes of Rouna canyon, in the original forests of the lower Brown River, and in woodlands bordering the Kokoda Track south of Ower's Camp on the Goldie River; also observed in the open lowland forests behind Tupusiele village. Usually in small flocks.

PERISHABLE COLORS: Bill Primuline Yellow, becoming some-

what more citrine on outer half. Skin around eye a little brighter than Lumiere Green.

***Ducula spilorrhoa melvillensis* (Mathews)**

Tupusiele: Two males, one male immature.

***Ducula pinon pinon* (Quoy and Gaimard)**

Lower Brown River forests: One female.

Taken by a native hunter.

***Ducula rufigaster uropygialis* Stresemann and Paludan**

Uberi, Goldie River: One male, 1000 feet.

Apparently uncommon in the canopy of original tropical forest. This specimen was taken near the Kokoda Track ford.

***Columba vitiensis halmaheira* (Bonaparte)**

Horseshoe Mountain (= Mt. Maguli): One male, 4300 feet.

Taken by a native hunter.

***Macropygia amboinensis cinereiceps* Tristram**

Rouna: One male (?), one female, one female immature, one (?).

Common in the middle and lower tiers of thick forests bordering Rouna canyon. Also found in forest-edge trees where on several occasions I was surprised to discover it perching quietly and motionless 20 to 30 feet overhead despite my noisy chopping. Usually solitary during February and March.

PERISHABLE COLORS: Bill a little more vinaceous than Mahogany Red, paler on basal half of mandible and gape. Legs brighter than Dark Vinaceous Brown; nails dark slate. Skin around eye slate black. Iris composed of three concentric circles as follows: innermost, pale gray; median, black; outermost, Capucine Yellow.

***Geopelia humeralis gregalis* Bangs and Peters**

Tupusiele: Three males, two females.

Fairly common on sandy ground and in bushes of the open lowlands of the Bootless Bay region. Also found feeding on the ground in sunny areas amid semi-dry mangroves and along the edges of damp salt pans.

***Geopelia striata papua* Rand**

Seven miles east of Port Moresby: one (?), 200 feet; Jackson Airfield, one male, 300 feet; below Rouna, one male, 500 feet; Tupusiele, one male, sea level; junction of Laloki River and Sapphire Creek, one male, 600 feet; foot of Little Mt. Lawes, one female, 300 feet; Rouna, one female, 1000 feet; Koitaki plantation, one female, 1800 feet.

Very common in open sandy areas amid the extensive grasslands bordering the coast in the vicinity of Port Moresby. Always in flocks. Uncommon above 700 feet.

***Chalcophapa indica chrysochlora* (Wagler)**

Rouna: One male, one female.

Not uncommon in semi-open forests of the Rouna talus slopes where it is usually found feeding on the ground in deep shade. Observed among the rubber trees of Koitaki plantation.

***Goura scheepmakeri scheepmakeri* Finsch**

Lower Brown River: Two males.

Taken by a native collector.

Quite common in the original forests of the lower Brown River Valley in the vicinity of the village of Motumotu. Apparently very rare or extirpated in other lowland areas adjacent to Port Moresby. Usually found in flocks of from three to seven feeding on the floor of deeply shaded high forest. When disturbed the flock walks stealthily or runs to concealment. If pressed too closely the birds disperse by flying to near-by limbs of the middle forest tier where, unfortunately, they can be easily shot. It is because of this characteristic that Crowned Pigeons are very difficult to protect, particularly as they are prized by local hunters and gourmets. Although as rigidly protected as the Birds of Paradise, the species appears to be doomed to extirpation in areas appropriated by modern man.

PERISHABLE COLORS: Bare skin showing through short feathers of the ocular ring and adjacent areas with subobsolete feathering slate black. Bill Slate Gray, becoming Gray (Gull Gray) on outer half. Interior of bill Slate Gray at edges, becoming pale Vinaceous-Gray on soft tissues. Tongue Pale Neutral Gray. Legs with large scutes Anthracene Purple, and broad intrascutal areas grayish white. Toes Spinel Pink × Rosolane Purple. Nails pale brownish gray. Iris Grenadine Red.

***Trichoglossus haematodus micropteryx* Stresemann**

Rouna: Eight males, four females, one (?); Hombron Bluff: two females.

Very common in large flocks in isolated trees throughout the open grasslands. Frequently found feeding on the red berries of the umbrella tree.

***Lorius lory erythrothorax* Salvadori**

Rouna: Five males, two females, one (?); Horseshoe Mountain (= Mt. Maguli): one male, 4400 feet.

Common in stunted forests of Rouna canyon and uncommon in high original forests bordering the Kokoda Track. One specimen taken in the Subtropical zone.

***Charmosyna papou stellae* Meyer**

Horseshoe Mountain (= Mt. Maguli): One male, 3400 feet, one female, 4200 feet, one (?), 4300 feet.

Fairly common in the canopy of high tropical and low subtropical forests where it is usually encountered in small flocks.

PERISHABLE COLORS: Maxilla Scarlet Red, mandible and tip of maxilla paler, more Flame Scarlet. Legs Grenadine Red; talons black. Iris orange, with minute scarlet flecks.

***Charmosyna pulchella bella* (De Vis)**

Horseshoe Mountain (= Mt. Maguli): Two males, 4000 and 4200 feet.

Common in the canopy of original subtropical forest. Always in small flocks.

***Probosciger aterrimus goliath* (Kuhl)**

Lower Brown River: Two males, two females, one (?).

Common in the crown of original tropical forest bordering the lower Brown River. Unobserved elsewhere. Usually in noisy flocks of from two to six.

PERISHABLE COLORS: Skin of face and throat Warm Buff heavily stained with Eugenia Red, particularly at base of maxilla and on anterior malar areas; lores less reddish, more Warm Buff; throat without red. Iris a little darker than Mars Brown.

***Cacatua galerita triton* Temminck**

Rouna: One male; lower Brown River near Motumotu: one male.

Common throughout the forested lowlands and in the foothills of the Owen Stanley Range to an altitude of about 3500 feet. This noisy, spectacular parrot is the most familiar bird of Rouna canyon where two or more birds are almost constantly to be seen in flight over the forest crown or perched on high sentinel trees of the steep talus slope.

PERISHABLE COLORS: Bill black; skin around eye pale bluish gray; a thin vinaceous eye ring. Legs and talons black.

***Psittrichas fulgidus* (Lesson)**

Horseshoe Mountain (= Mt. Maguli): One male, two females, 4200 feet.

Fairly common in the crown of subtropical forest. One specimen was observed near Ioribaiwa at an altitude of about 2000 feet.

PERISHABLE COLORS: Naked portions of face, throat, bill, legs, and talons black. Iris dark brown.

***Larius roratus pectoralis* (P. L. S. Müller)**

Rouna: Two females; Tupusiele: one male immature, three females; Uberi: one male; Horseshoe Mountain (= Mt. Maguli): one female, 3000 feet.

Fairly common from sea level to 3000 feet in the upper limbs of large trees of the forest and forest edge.

PERISHABLE COLORS (FEMALE): Maxilla Flame Scarlet brightening to Grenadine Red on basal half, except at base which is narrowly Flame Scarlet; mandible black; eye ring Deep Mouse Gray; gape Salmon Orange. Legs Chaetura Drab; talons black; pads dark brownish buff. Iris Grenadine Red.

***Geoffroyus geoffroyi aruensis* (Gray)**

Rouna: One male; Tupusiele: one female, one female immature.

A rather uncommon inhabitant of the lowland forest. The Rouna specimen was taken in the crown of deep talus forest from a flock of five.

PERISHABLE COLORS: Bill Scarlet, cere slate black, with a gray wash on the anterior edge; maxilla with a yellowish tip,

becoming dark gray on basal third; gape pale yellow. Feet and nails glossy black. Iris Buff Yellow.

***Alisterus chloropterus chloropterus* (Ramsay)**

Rouna: One male; foothills behind Port Moresby: one female; Uberi village, north bank of the Goldie River on the Kokoda Track: one male (type locality).

Uncommon in forested areas between Sapphire Creek and Uberi on the Kokoda Track. I observed it in high sentinel trees bordering the original forest.

PERISHABLE COLORS: Maxilla Coral Red, becoming Buffy Coral on outer half of culmen, tip and cutting edges black. Skin around eye dull smoke gray. Talons black. Iris a little brighter than Primuline Yellow.

***Psittacella madarászi madarászi* Meyer**

Horseshoe Mountain (= Mt. Maguli): One female, 4300 feet. Brought in by a native hunter. Nearly topotypical.

***Chalcites meyerii* (Salvadori)**

Rouna: One male.

Apparently uncommon. Our specimen was taken by a native hunter in thick talus forest above Rouna Falls.

PERISHABLE COLORS: Bill black. Eye ring Nopal Red. Legs Dark Gull Gray; talons black. Iris Liver Brown.

***Caliechthrus leucolophus* (Müller)**

Horseshoe Mountain (= Mt. Maguli): One male, 4300 feet; vicinity of Tupusiele: one female, 200 feet.

Very uncommon. Both specimens collected by natives.

***Centropus menbeki menbeki* Lesson**

Lower Brown River: One female, 150 feet.

Apparently uncommon. This specimen represents the only evidence obtained by us of this coucal in the Port Moresby region. It was taken by a native hunter in original tropical forest.

***Centropus phasianinus nigricans* (Salvadori)**

Rouna: Four males, five females; Koitaki: one female; Tupusiele: two males, one female.

Common inhabitant of kunai grassfields between sea level and 2400 feet. When flushed by a vehicle this bird frequently flies awkwardly to the top of a near-by bush where with head held high and wings drooping it often resembled a piece of rotted wood rather than a bird. In early February I observed a "pheasant" walking slowly across a grass clearing with its head downward and its wings partially open and nearly touching the ground. As soon as this bird disappeared in tall grass I jogged over the area thinking it would be a simple matter to flush the coucal, but I never saw it again. According to my Koiaris, this species crawls under matted grass and lies motionless when pursued.

Podargus papuensis Quoy and Gaimard

Lower Laloki River: One male; Rouna: one male.

Probably fairly common but very secretive. Observed once at each of the localities listed above and on the top of Hombron escarpment (2100 feet). On two occasions the birds were solitary in large, isolated eucalyptus trees growing in kunai grassfields, and once I found them 50 yards apart in an open eucalyptus forest, the floor of which was thickly covered with low grass. The latter birds were observed at dusk in late March on Hombron. I was surprised to see them stand crow-like on high, nearly horizontal mid-limbs. I flushed each bird and watched it fly 30 to 50 yards and perch in similar fashion again. None were seen clinging to vertical surfaces and none were found lower than 35 feet from the ground. The specimen taken on the lower Laloki River edge at an altitude of 300 feet was shot by my hunting partner, William Lamont, in mid-afternoon. It was the only one observed except at dusk. I did not determine its diurnal resting position.

***Caprimulgus macrurus yorki** Mathews

Apparently rather uncommon during March and early April. Two birds were found sitting 400 yards apart on a gravel road near the lower Laloki River Bridge, March 29, at about 7 P.M. Their eyes reflected pale gold in the vehicular headlights.

***Chaetura caudacuta caudacuta** (Latham)

Observed February 16. See *Collocalia vanikorensis granti*.

***Collocalia esculenta esculenta* (Linnaeus)**

Rouna: One male, two females; Koitaki: one male.

Very common about cliffs, talus slope clearings, and water courses between 500 and 3000 feet in flocks of up to 15 birds. Abundant in the vicinity of Rouna Falls.

***Collocalia vanikorensis granti* Mayr**

Lowlands behind Port Moresby: Two males.

Fairly common. Collected from drones of 30 or more of several species near Jackson Airfield, February 16 and 21.

***Hemiprocne mystacea mystacea* (Lesson)**

Vicinity of Ower's Camp on the south bank of the Goldie River: One male, one female, 2100 feet.

Uncommon. My only observation was of four birds found occupying a long narrow clearing in original forest bordering the Kokoda Track. The birds repeatedly forayed over the clearing from established perches high in living trees

***Alcyone azurea lessonii* Cassin**

Rouna: One female.

Taken by a native collector.

***Syma torotoro meeki* Rothschild and Hartert**

Port Moresby region: One male; Little Mt. Lawes: one male; Rouna: one male, one female; Koitaki: one female; Ower's Camp: one male; Uberi on the north bank of the Goldie River: one female.

Fairly common in original and second-growth forest edge near grassfields. Usually found sitting motionless on exposed perches 4 to 25 feet above kunai grass. One specimen was taken from a perch 25 feet up in a vine-matted tree on the fringe of Uberi village in the original tropical forest of the Goldie River Valley.

PERISHABLE COLORS: Bill Cadmium Yellow; feet Deep Chrome; nails brownish black; Iris Brownish Olive.

***Melidora macrorhina macrorhina* (Lesson)**

Rouna: One female.

Uncommon. Brought in by a native collector.

***Dacelo leachii intermedia* Salvadori**

Rouna: Three males, one female, two (?); Tupusiele: one male, three females.

Very common in spaced-out eucalyptus trees of the kunai grasslands. Less common throughout the open forests and high mangroves. Not observed above 2800 feet and apparently absent from the dense tropical forests bordering the lower Brown River. During February and March usually found perching quietly on mid-limbs of the forest edge and in sentinel trees. During late March in the lowlands I was often greeted by a screeching din which lasted many minutes. In each instance the racket was caused by a pair of protesting Blue-winged Kookaburras.

Many residents of the Port Moresby region hold the erroneous belief that this bird was introduced from Australia. Although recognizing the pronounced vocal differences which exist between the New Guinea and the Australian races, they explain wryly that the Kookaburras found the Papuan climate so disagreeable that they could no longer utter their famous Jackass laugh.

PERISHABLE COLORS: Maxilla black, with profuse silvery scales: mandible bone white, becoming blackish on posterior sides and on most of outer third except tip; legs grayish olive; nails black.

***Sauromarptis gaudichaud* (Quoy and Gaimard)**

Imiti ridge above Uberi on the northern flank of the Goldie River: One female; lower Brown River forests: one female.

Not uncommon in the tropical forest where I once observed this species to perch for many minutes in the mid-limbs of a tall tree growing on the edge of the Kokoda Track in original hill forest.

***Halcyon macleayii elisabeth* (Heine)**

Rouna: Three females.

Probably fairly common in the deep forests bordering the Laloki River where I infrequently found it perching alone 8 to 16 feet from the ground.

PERISHABLE COLORS: Maxilla black, with a small black tip; mandible Zink Orange, becoming dusky on basal sides and Lemon Yellow on tip. Gape and soft skin at sides of maxilla Apricot Orange. Eye ring dark gray, becoming buff on anterior half.

Legs grayish buff; toes grayish yellow; pads Apricot Buff; nails dark gray. Lores a little paler than Ochraceous Buff. Iris dark purplish gray.

Halcyon macleayii macleayii

Tupusiele: One female, March 21.

Found in the high, semi-dry mangroves bordering Tupusiele lagoon.

***Halcyon sancta sancta* Vigors and Horsfield**

Tupusiele: One male, three females, March 20–22.

***Tanysiptera galatea minor* Salvadori and D'Albertis**

Rouna: One male, one female immature; lower Brown River forests: two females, one [female].

A fairly common inhabitant of the stunted talus slope forests bordering Rouna canyon, also the high forests bordering the lower Brown River. Found singly 4 to 18 feet up.

PERISHABLE COLORS: Maxilla black, with a tan tip; mandible Zink Orange, becoming dusky at basal sides and Lemon Yellow at tip. Skin at sides of maxilla and gape Apricot Orange. Eye ring dark gray, becoming buff on anterior half. Legs grayish buff, toes more yellowish; pads Apricot Buff; nails dark gray. Lores a little paler than Ochraceous Buff. Iris dark purplish gray.

***Merops ornatus* Latham**

Near confluence of Sapphire Creek and Laloki River: One male (?); top of Hombron escarpment: one male, two females; Little Mt. Lawes: one male; lower Brown River edge: one female.

In February rather uncommon in open grassy areas of the lowlands (100 to 500 feet) containing spaced-out trees. In March fairly common; in late March and early April common and for the first time seen in flocks of up to 20 flying over my Rouna camp (1100 feet), Hombron escarpment (2200 feet), and Koitaki (2500 feet). Always in open flocks. Fond of perching on wires along the Rouna-Port Moresby road and on high limbs of slender trees growing in grasslands. Unobserved above 2800 feet.

PERISHABLE COLORS: Bill, legs, and feet black.

***Eurystomus orientalis waigiouensis* Elliot**

Rouna: One male, two females; Ower's Camp, south bank of the Goldie River: one male; Uberi village in the Goldie River Valley: one female; Tupusiele village: one female.

A common solitary species of semi-open grasslands, trees of the forest edge, and semi-open woodland clearings, between sea level and 2800 feet. Most frequently observed sitting motionless for long periods on high, dead perches.

PERISHABLE COLORS: Bill Coral Red, the culmen pinkish on inner half and blackish on outer half. Feet Coral Red with black nails. Iris Mars Brown.

***Eurystomus orientalis pacificus* (Latham)**

Rouna: One male.

Shot from a dead tree bordering the Laloki River just above the falls, March 10. Apparently very uncommon and thinly distributed.

***Rhyticeros plicatus jungei* Mayr**

Rouna: One female; Horseshoe Mountain (= Mt. Maguli): one male; lower Brown River forests: two males.

Fairly common in pairs in the canopy of original tropical and subtropical forest. A fruit tree growing at 1900 feet in the thick forests of Rouna canyon near the falls was frequented daily during February and March by from two to six birds. Males and females were observed feeding together in the crown limbs.

To one unfamiliar with this hornbill its characteristic thrashing flight is startling. When the wind was right, I found it possible to follow by ear the flight paths of single birds 200 yards distant and to orient correctly their position as they landed in trees 50 yards away.

PERISHABLE COLORS (MALE): Eye ring deep vinaceous; skin around eye Light Squill Blue; throat and chin white, washed with Etain Blue, particularly on lower portions. Bill a little more buffy than Cartridge Buff, the maxilla with blackish brown slots which become lighter posteriorly to the rearmost slot which is more pinkish than Hydrangea Red. Posterior concavity of maxilla a little more pinkish than Dark Vinaceous. Basal quarter of maxilla and basal third of mandible deep Vinaceous Red.

Legs black with broad gray scute emarginations; talons black. Iris Scarlet Red with a fine concentric mid-line consisting of minute black flecks.

PERISHABLE COLORS (FEMALE): Bill bone white, becoming dark brown in the dorsal concavities of the casque, the rearmost of which is bordered posteriorly with a band of dull Orange Vinaceous; rear of mandible with an irregular subterminal black margin. Skin around eye Pale Windsor Blue, darkening to Clear Windsor Blue near eye ring; eye ring purplish black. Throat like skin around eye but more Pale Etain Blue, becoming whitish on anterior half and on malar areas; skin bordering gonydeal angle like that of posterior throat. Feet black, with pale gray intra-scutal margins; nails black; pads dull lemon yellow. Iris Pale Purplish Gray.

***Pitta sordida novae-guineae* Müller and Schlegel**

Lower Brown River near Motumotu: One female and an egg.

Koiari name: Oh-ro-u.

Apparently rather uncommon in the deep forests of the lower Brown River Valley where a single female was taken by a native collector, March 28. This secretive inhabitant of the jungle floor was observed by Mari-Uri as it rose from a sitting position in grass and leaves at the edge of original forest. After shooting the bird my collector examined the resting spot and discovered an egg lying on a dead leaf but no sign of a nest. This egg has a whitish lavender base color with medium large blotches of pale lead gray and pale grayish brown chiefly concentrated about the larger half; also a few reddish brown blotches scattered among the paler markings. Measurements of egg: 26.4 by 24.4 mm. Because of a break in the shell the latter measurement is approximate.

PERISHABLE COLORS (FEMALE): Bill black. Interior of mouth grayish vinaceous with a pale vinaceous tongue. Legs pale grayish brown. Iris near Dark Maroon-Purple.

***Lalage sueurii tricolor* (Swainson)**

Seven miles east of Port Moresby: One male, February 21.

Not uncommon in the open lowlands among spaced-out eucalyptus trees and bushes.

***Edolisoma tenuirostre mülleri* Salvadori**

Horseshoe Mountain (= Mt. Maguli): One male, one (?), 4200 feet.

Collected from the crown of original subtropical forest.

***Coracina caeruleogrisea adamsoni* Mayr and Rand**

Horseshoe Mountain (= Mt. Maguli): One female, 4200 feet; one male, 3500 feet (near Ioribaiwa); Ower's Camp: one male, 2100 feet.

Fairly common in high tropical and subtropical forests where it is encountered in pairs or small flocks in the topmost foilage. On occasion this silent bird conceals itself by hopping into thick clusters of leaves and remaining motionless for a minute or more.

PERISHABLE COLORS: Legs and talons black, with vivid gray intra-scutal lines; pads bright citron yellow. Iris Seal Brown.

***Coracina novaehollandiae melanops* (Latham)**

Rouna: One male, March 15; below Rouna: one male, March 13; 500 feet.

Uncommon. Observed four or five times in open lowland areas where it usually chose low perches in bushes or small trees growing amid fields of kunai grass.

***Coracina papuensis angustifrons* (Sharpe)**

Below Rouna: One male, 500 feet; Little Mt. Lawes: one male; Hombron escarpment: one male; Tupusiele village: one male.

Common in the open lowlands where it was most frequently encountered 20 to 50 feet up in eucalyptus trees growing in high kunai grass along the Port Moresby-Rouna road. Usually in open flocks of two to five birds of the same or related species. Not observed above 2100 feet.

***Pomatostomus isidori isidori* (Lesson and Garnot)**

Port Moresby region: Two males.

Brought in by native collectors.

***Malurus alboscapulatus moretoni* De Vis**

Rouna: One male, one female.

Common in grassy areas containing bushes and spaced-out

trees; also in the edge of second-growth forest and in the vicinity of native villages. Observed between sea level and 2800 feet.

***Todopsis cyanocephala bonapartii* Gray**

Four miles east of Motumotu on the lower Brown River: One (?).

An uncommon inhabitant of swampy grassfields containing bushes, trees, and often a fringe of reeds. Not observed above an altitude of 200 feet.

***Cisticola exilis diminuta* Mathews**

Near Waigani Swamp: One male, March 29.

A fairly common but secretive inhabitant of lowland kunai grassfields.

***Sericornis papuensis papuensis* (De Vis)**

Horseshoe Mountain (= Mt. Maguli): One male, 4400 feet.

Not uncommon in the subtropical forests of Mt. Maguli where it was usually found 1 to 8 feet up in bushes or slender trees. Very inquisitive and wren-like. Alarm call: a long low rattle emitted while standing on small limbs or thin vertical shafts 10 to 40 feet distant.

***Phylloscopus trivirgatus giulianettii* (Salvadori)**

Ower's Camp, south bank of the Goldie River: One female, 2100 feet.

This nearly topotypical specimen was taken from the crown of original forest bordering the Kokoda Track.

***Peltops blainvillii* (Lesson and Garnot)**

Near Ioribaiwa on the Kokoda Track 50 miles by trail north-east of Port Moresby: One male, not below 1675 feet.

Apparently uncommon. Our only record is of a specimen collected by one of my hunters from the top of the forest bordering the Kokoda Track.

***Rhipidura hyperythra castaneothorax* Ramsay**

Lower Brown River Valley: One female, 300 feet.

Not uncommon in the middle tier and crown of original tropical forest.

***Rhipidura albolimbata auricularis* De Vis**

Horseshoe Mountain (= Mt. Maguli): Two males, one (?), 4200 feet.

Common in basal half of subtropical rain forest. See *Climacteris placens meridionalis*.

***Rhipidura rufiventris gularis* Müller**

Lowlands behind Port Moresby: One (?).

Brought in by a native.

***Rhipidura leucophrys melaleuca* (Quoy and Gaimard)**

Jackson Airfield behind Port Moresby: One female; Hombron escarpment: one (?); Koitaki: one male, 1800 feet; Uberi village, Goldie River Valley: one male, 1000 feet; Tupusiele village: one male; lower Brown River Valley: one male.

Common in open sandy and grassy areas interspersed with scrub and small trees. Usually near fresh water. Often encountered on the edge of native clearings and about local homesteads where it perches on low branches and posts, and is frequently seen on the ground. Not observed above 2800 feet.

***Monarcha alecto chalybeocephalus* (Garnot)**

Tupusiele: One male.

Brought in by a native collector.

***Arses telescopthalmus henkei* Meyer**

Koitaki: One (?); lower Brown River: one [male].

Fairly common in the middle and top tiers of the luxuriant Brown River forest near the village of Motumotu where I found it traveling in company with *Rhipidura hyperythra castaneo-thorax*. Apparently it is fond of hunting for food on bark of the middle and upper limbs.

PERISHABLE COLORS: Bill light Ampero Blue, paler at tip. Legs dark bluish gray: nails black. Wattles around eye Phenyl Blue. Iris a little darker than Bistre.

***Microeca leucophaea zimmeri* Mayr and Rand**

Seven miles east of Port Moresby: One male.

Taken from the middle limbs of a spaced-out eucalyptus forest growing amid high kunai grass.

***Microeca flavigaster terraereginae* Mathews**

Little Mt. Lawes: One male; Tupusiele: one female.

Common in the middle and top tiers of eucalyptus trees growing in the lowland kunai grass belt.

***Tregellasia leucops albifacies* (Sharpe)**

Ower's Camp, south bank of the Goldie River: One (?), 2100 feet.

Taken by a native collector.

***Rhagologus leucostigma obscurus* Rand**

Horseshoe Mountain (= Mt. Maguli): One male, 4300 feet.

Taken from the crown of subtropical forest.

PERISHABLE COLORS: Legs, feet, and talons black; pads buffy yellow. Iris a little brighter than Hessian Brown.

***Pachycephala soror bartoni* Ogilvie-Grant**

Horseshoe Mountain (= Mt. Maguli): One male, 4500 feet; two females, 4200 feet.

Fairly common in the crown of subtropical rain forest, often in company with *Melidectes torquatus emilii*.

PERISHABLE COLORS: Bill black; legs and talons dark gray. Iris Ox-blood Red.

***Pachycephala griseiceps dubia* Ramsay**

Ower's Camp, south bank of the Goldie River: Two males, 2100 feet.

Taken by a native collector.

***Pachycephala modesta modesta* (De Vis)**

Horseshoe Mountain (= Mt. Maguli): Two males, 4200 feet.

Observed in the middle and upper portions of subtropical rain forest.

***Myiolestes megarhynchus despectus* (Rothschild and Hartert)**

Ower's Camp: One female, 2100 feet.

***Colluricincla harmonica tachycrypta* Rothschild and Hartert**

Hombron escarpment: One male.

***Pitohui dichrous monticola* Rothschild**

Rouna: Two males, 1000 feet; Uberi village, Goldie River Valley: one female, 1000 feet.

A rather secretive inhabitant of the thick forest edge bordering the Kokoda Track, where it was usually seen as a nervous shadow near the ground. Very difficult to see despite its shrill and oft-repeated whistle which is emitted whenever man approaches closely.

***Pitohui ferrugineus clarus* (Meyer)**

Rouna: One male, one (?); near Ioribaiwa: one male, 2200 feet; lower Brown River Valley: one female.

Observed in the middle tier and along the edge of the thick stunted forests of Rouna canyon.

***Artamus leucorhynchus leucopygialis* Gould**

Near Jackson Airfield behind Port Moresby: One male, one female; Tupusiele village: one male.

Abundant. Not observed above 800 feet. Always in distinct flocks of six to 12 or more which occupy selected areas in the semi-open lowlands containing a mixture of large and small spaced-out trees. Colony members begin gathering on specific roosting limbs about an hour before sunset, but all through the day they remain more or less together as they course about in search of flying insects. At night they cluster together in tight little knots on high, nearly horizontal limbs of isolated eucalyptus trees.

***Aplonis cantoroides* (Gray)**

Rouna: One female; Tupusiele village: one male.

Uncommon. A few birds were observed singly in the open lowlands.

***Mino dumontii dumontii* Lesson**

Rouna: Five males, two females.

Very common in all areas containing trees in any quantity. Not observed above 2800 feet. Always in large noisy flocks. The raucous chatter of this species is often heard both in the open grasslands and in the crown of original tropical forest. Usually found in the canopy of high trees.

PERISHABLE COLORS: Bill Cadmium Orange, yellower at base; skin of face and small wattles a little more orange than Capucine Yellow. Legs Cadmium Yellow. Iris bright Cadmium Yellow interspersed with rather large black flecks.

***Oriolus szalayi* (Madarász)**

Rouna: Three males, one female.

Found in the matted forests of Rouna canyon.

PERISHABLE COLORS: Bill Morocco Red. Legs Dark Quaker Drab; nails black. Iris Nopal Red.

***Sphecotheres vieilloti salvadorii* Sharpe**

Tupusiele: Two males, one female.

Apparently uncommon. These specimens comprise my only record of the species. They were taken with a single shotgun charge from a flock of 10 or more which gathered at dusk in an isolated, thickly leafed tree growing on the seaward edge of a large grassfield 30 feet from open water.

***Pomareopsis bruijni* (Salvadori)**

Goldie River Valley above Uberi village: Tail and abdomen feathers, 1500 feet.

Very uncommon. My only observation was of a pair seen on big conglomerate boulders in a narrow forest stream on March 8 at about 4 P.M. At a distance of some 40 yards they resembled large wagtails chiefly because of their nervous hopping and fluttering among the water-washed rocks. Following a minute of observation through glasses, I fired. Unfortunately my target fell into swiftly flowing water with the result that the distinctive feathers recorded above were all I could find of this rare Magpie-Lark.

***Cracticus cassicus cassicus* (Boddaert)**

Rouna: Two females; lower Brown River: one male.

Common along the lowland forest edge and in open areas containing spaced-out trees, boulders, and clumps of bushes. Usually in small flocks of from two to six which moved wave-like across the country, often in company with related species.

***Cracticus mentalis mentalis* Salvadori and D'Alberty**

Rouna: Two females; Koitaki: one (?).

Similar in habits to preceding species.

***Dicrurus hottentottus carbonarius* Bonaparte**

Rouna: Six males, one female; Uberi, Goldie River Valley: one male; Tupusiele: one (?); lower Brown River Valley: one male.

A common, solitary bird of the stunted forests bordering Rouna canyon where I found it most frequent well inside the forest in the middle tier of slender trees. Less common along the forest edge at Rouna, in the wet forests of the lower Brown River Valley, and about the coastal village of Tupusiele.

PERISHABLE COLORS: Bill and feet black. Iris Grenadine Red.

***Chaetorhynchus papuensis* Meyer**

Horseshoe Mountain (= Mt. Maguli): One male, 4300 feet; one female, 4400 feet.

Taken in subtropical rain forest.

***Corvus orru salvadorii* Finsch**

Rouna: One male, one female; near Port Moresby: one female; Jackson Airfield behind Port Moresby: one male; vicinity of Tupusiele village: One male, one female.

Very common in lowland savannas with spaced-out eucalyptus trees, particularly in the vicinity of refuse heaps near Jackson Airfield. Uncommon above 1000 feet and apparently unknown above 3000 feet. Usually in open flocks. Rarely solitary.

***Gymnocorvus tristis* (Lesson and Garnot)**

Rouna: One female, one female (?); lower Brown River near Motumotu: one male.

Very common between 500 and 2500 feet in heavily forested areas, particularly near cliffs and fresh water. Usually in large noisy flocks of from six to 10 which stream vociferously through the forest crown. Occasionally observed in the mid-limbs of large sentinel trees on the edge of native villages.

PERISHABLE COLORS: Bill bone white on outer half, pale vinaceous pink on inner half. Gape, lores, throat, skin above and below eye vinaceous pink; naked area behind eye pale vinaceous gray. Legs Baryta Yellow; talons blackish gray. Iris Light Amparo Blue.

***Manucodia ater subalter* Rothschild and Hartert**

Rouna: Two males, one female; Tupusiele village: one male.

An uncommon inhabitant of the stunted woodlands bordering Rouna canyon where I occasionally observed it in the forest canopy. On February 12 I found this manucode feeding on small berries in company with four or more females or immature males of *Paradisaea apoda salvadorii*. The mixed flock picked its way silently about in slender crown branches some 25 feet above a steep talus slope leading down to Rouna Falls.

PERISHABLE COLORS: Bill, legs, and toes black. Gape pale gray. Eye ring purplish black. Inside of bill dusky gray lightening inwardly to pale vinaceous gray. Tongue Gull Gray with a paler tip. Iris: in one specimen it appeared bright Cacao Brown, in another Acajou Red.

***Phonygammus keraudrenii purpureo-violaceus* Meyer**

Horseshoe Mountain (= Mt. Maguli): Two males, one female, 4200 to 4400 feet.

Taken in subtropical rain forest.

***Drepanornis albertisii cervinicauda* Sclater**

Near Uberi, Goldie River Valley: Two females, 1400 feet (?).

Shot by a native collector in high forest bordering the Kokoda Track.

***Parotia lawesi lawesi* Ramsay**

Horseshoe Mountain (= Mt. Maguli): One male, 4200 feet.

Taken by a native collector some 60 feet up in a cathedral-like forest on the north slope of Mt. Maguli.

PERISHABLE COLORS: Bill and gape blackish. Legs somewhat darker than Vandyke Brown; talons dark brown. Iris Martins Yellow.

***Lophorina superba minor* Ramsay**

Horseshoe Mountain (= Mt. Maguli): One male, 4300 feet.

Shot by a native collector in subtropical rain forest. This specimen was brought in alive and successfully photographed. In doing so I noted that the spectacular hood is usually carried inconspicuously along the back in two closed fans resembling folded insect wings. When aroused, the bird erected these plumes in the manner of an Indian headdress. At other times a flat, almost vertical fan was formed as the subject pointed its bill downward in apparent fury.

***Seleucides ignotus ignotus* (Forster)**

Lower Brown River near Motumotu: One male, one female.

Not uncommon. Collected in the crown of luxuriant valley forest bordering the lower Brown River. In this area I observed a solitary male as it moved slowly along a richly decorated limb 80 feet up. It seemed to be feeding among the arboreal plants.

PERISHABLE COLORS (MALE): Bill black. Legs vinaceous near Rose Doree; talons brownish gray, becoming slate gray on outer halves. Hard internal parts of bill and outer surfaces of tongue black; soft internal tissues brilliant Mineral Green washed with Cobalt Blue. The brilliancy of the open mouth is accentuated by the dead black velvety feathers which surround it. This coloration is a secondary sexual character which doubtless is used in display. Iris Scarlet Red.

PERISHABLE COLORS (FEMALE): Like the male but with internal mouth parts Martins Yellow, not green as indicated. Iris Light Cadmium, not Scarlet Red. Legs somewhat more Buffy Gray, less Salmon.

****Cicinnurus regius rex* (Scopoli)**

Apparently quite uncommon. Despite extensive hunting I found no trace of this species. A male King Bird of Paradise is known to have been killed by a native near Sogeri plantation in 1947.

***Paradisaea apoda salvadorii* Mayr and Rand**

Rouna: Three male immatures, two females, one female (?), one (?); Koitaki: three males, near Ower's Camp, one male.

Very common in Rouna canyon where it fed in the upper portions of trees located well within the stunted forest. Flocks were infrequently seen streaming through the canopy on apparently well-defined arboreal trails near Koitaki plantation in semi-original woodlands and in the high original forests between Illolo and Ower's Camp. According to my natives, these wandering flocks were bound for "dancing trees" in the vicinity. I found no trace of this species below 800 feet, although it must occur in the lowland forest. Mr. Archibald Whitbourne (see p. 13) found it common in the lowlands during the years 1907-1909.

On February 22 at 3:45 P.M. I shot a solitary male in fresh plumage just north of Illolo on the Kokoda Track, 2500 feet. This bird had made a number of short flights along the course of

our march in an inquisitive manner resembling that of the Squirrel-tailed Cuckoo of South America. Adding to the illusion, its reddish flank plumes took on the appearance of a long rufous tail as it moved from one semi-concealed perch to another. No other adult males were discovered except during flocking hours. Females and immature males were regularly found feeding at any time of day in the Rouna forests where they seemed far to outnumber the males. At about 4 p.m., March 29, near Koitaki one of a small flock which I had been following performed briefly on a thin, nearly horizontal limb some 60 feet up in a tall, partially dead forest tree. The male opened and closed its wings as though getting ready to fly; then after a slight pause it repeated this movement quite rapidly, at the same time extending its flank plumes downward and outward until they touched the perch. After some 15 seconds of this action the bird jumped a short distance to one side and shortly thereafter flew out of sight in company with several others of the same species. The band appeared to be bound for a dancing tree. A mild rain storm was under way during the period of observation.

My usually well-informed native assistants believed that plumed birds were females or "Marys." When shown the testes of dissected plumed males they were much disturbed. This species is commonly used for dance ornamentation. The well-dressed Koiari wears a single skin on his forehead. It is attached to a circular head band so as to expose the iridescent green throat just above the performer's eyes. The tail and flank plumes protrude gracefully upward.

PERISHABLE COLORS (IMMATURE MALE): Bill Persian Blue, slightly more purplish around nostrils, becoming more bone colored at the tip. Inside of bill pale bluish gray washed with citrine yellow on inner half. Gape citrine yellow. Tongue pale vinaceous gray, becoming more citrine on inner half. Legs near Liver Brown. Iris near Apricot Yellow.

PERISHABLE COLORS (ADULT FEMALE): Similar to the former but with legs Pale Vinaceous Drab. Iris near Light Brownish Drab.

***Paradisaea rudolphi rudolphi* (Finsch)**

Horseshoe Mountain (= Mt. Maguli): One male, two females, 4200 to 4500 feet.

Common above 4000 feet on Mt. Maguli, the only subtropical area that I had occasion to examine. Females were numerous in the middle tier of open ridge forest where they were usually found perching 20 to 40 feet above little forest openings. Although the females were scattered throughout the forest ridges they were invariably solitary, and usually from 50 to 200 or more yards distant from one another. When approached they uttered a penetrating rasping croak. On March 4, I observed a male in full plumage 70 feet up in a tree growing from the north flank of Mt. Maguli ridge. It was solitary and silent and appeared to be feeding in the topmost branches of a thickly decorated limb.

PERISHABLE COLORS (MALE): Skin around eye Plumbeous Black. Bill Gray (Gull Gray) washed lightly on sides of outer third and heavily on basal quarter with Chaetura Drab. Bill tip Gray; cutting edges of bill Slate Gray. Gape Dark Quaker Drab. Interior of mouth, gape, and basal thirds of maxilla and mandible Bright Deep Chrysolite Green; tongue and basal half of mandible groove Pale Violet Blue; tip of tongue Prussian Blue; anterior halves of maxilla and mandible Pallid Violet Blue. Legs Dull Violet Black with profuse Light Mouse Gray scutal margins; sides of legs almost completely Pale Mouse Gray with a faint vinaceous wash. Talons Dark Quaker Drab. Pads at friction points Ecu-Olive, elsewhere Mineral Gray. Nostrils blackish. Edge of gonydeal angle more blackish than Chaetura Drab. Iris pale gray? (Iris of adult female Light Seal Brown).

***Amblyornis subalaris* Sharpe**

Horseshoe Mountain (= Mt. Maguli): One male, 3500 feet.
Collected by a native on the Kokoda Track about Ioribaiwa.

***Chlamydera cerviniventris* Gould**

Rouna: Four males, two females; Koitaki: one female; Tupusiele: one male, one female.

Common between the coast and 2800 feet in grasslands and forest edge containing bushes and spaced-out trees. Very common in the Rouna and Koitaki regions. When disturbed on the ground this bird flies to a small bush and then to the forest edge where it perches 30 or more feet up on an exposed limb. Several bowers are known to be located on the top of Hombron

escarpment. Because of a misunderstanding my Koiari natives failed to inform me of their location until I had returned to Port Moresby.

PERISHABLE COLORS: Bill black. Legs greenish gray; nails black.

***Ailuroedus crassirostris melanocephalus* Ramsay**

Horseshoe Mountain (= Mt. Maguli): One male, 3500 feet.
Collected by a native on the Kokoda Track above Ioribaiwa.

****Climacteris placens meridionalis* Hartert**

Very uncommon. The only example that I found was observed feeding on the Mt. Maguli ridge trail at an altitude of 4400 feet where it hunted on the butts of two trees 1 to 4 feet from the ground. This bird was in company with one example of *Rhipidura albolimbata auricularis* which I collected immediately after losing sight of the creeper. The flycatcher was taken from a perch 12 feet up in open ridge forest.

***Cinnyris jugularis valia* (Mathews)**

Koitaki: One male.

Fairly common in partially cleared areas near human habitations.

***Melithreptus lunatus albogularis* Gould**

Rouna: One male.

***Melidectes torquatus emilii* Meyer**

Horseshoe Mountain (= Mt. Maguli): Two males, three females, 4200 to 4300 feet.

Common in the open forest crown. Usually in flocks of three to six or more. Observed several times in company with *Pachycephala soror bartoni*.

PERISHABLE COLORS: Bill Pale Windsor Blue, becoming Water Green on gape. Gape wattle vinaceous. Eye ring Lemon Chrome; large naked area behind eye and partially around eye ring Orange Chrome. Wattles at side of throat Naphthaline Yellow. Legs Clear Payne's Gray; talons black; contact pads buff. Iris a little darker than Bay.

***Xanthotis chrysotis giulianettii* Mayr**

Lower Brown River: One male.

***Meliphaga aruensis aruensis* (Sharpe)**

Hombron escarpment: One male.

***Meliphaga gracilis cinereifrons* Rand**

Rouna: One male; lower Brown River Valley: one (?).

***Ptiloprora plumbea plumbea* (Salvadori)**

Horseshoe Mountain (= Mt. Maguli): Two males, 4200 feet.

***Pycnopygius cinereus marmoratus* (Sharpe)**

Horseshoe Mountain (= Mt. Maguli): Three males, 4200 feet.

***Philemon novaeguineae novaeguineae* (Müller)**

Rouna: Four males, two females, one female (?); lower Brown River: one male.

Abundant in grassland trees, about human habitations, orchards, and fairly common in the open forest. Found between sea level and 2800 feet. Always in small flocks. Most frequently encountered in the middle tier and canopy of eucalyptus trees bordering the Rouna road but apparently abundant in the most congested parts of the town of Port Moresby. The penetrating, oft-repeated bugle call of this species is without doubt the most distinctive avian sound to be heard in southern Papua. Local name: "Leather-head."

PERISHABLE COLORS: Bill, skin around eye, casque, legs, and nails slate black. Iris near Rood's Brown.

***Zosterops novaeguineae crissalis* Sharpe**

Horseshoe Mountain (= Mt. Maguli): Two females, 4200 to 4400 feet.

****Zosterops minor delicatula* Sharpe**

One specimen observed 12 feet up in a papaya grove within 30 feet of a group of houses at Koitaki plantation, 2600 feet, February 17.

***Lonchura caniceps caniceps* (Salvadori)**

Vicinity of Jackson Airfield: One male, one female, one male immature, one female immature.

Abundant. Always in tightly knit flocks of up to 50 birds in lowland grasslands containing bushes and patches of swamp. Not observed above 400 feet.

***Lonchura castaneothorax nigriceps* (Ramsay)**

Below Rouna: One male, 300 feet; near Jackson Airfield: one (?); 7 miles east of Port Moresby: one male.